

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**General Electric Company
One Lexan Lane
Mt. Vernon, Indiana 47620**

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

The issuance of this permit will supersede the following air approvals to ULTEM® operation: Amendment to CP (65) 1562, issued March 11, 1985; Amendment to PC (65) 1656, issued May 11, 1988; Correction Request to 129-5608, dated October 29, 1996; PC (65) 1562, issued August 27, 1984; PC (65) 1585, issued July 30, 1985; PC (65) 1656, issued September 18, 1987; PC (65) 1710, issued September 22, 1988; CP129-5608, issued August 5, 1996; and the five Registrations issued on April 11, 1984; February 28, 1990; May 18, 1990; July 12, 1990; and 129-2226, issued on October 28, 1991.

Construction Permit No.: CP-129-10588-00002	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

- A.1 General Information
- A.2 Emission Units and Pollution Control Equipment Summary
- A.3 Part 70 Permit Applicability

SECTION B GENERAL CONDITIONS

- B.1 General Construction Conditions
- B.2 Effective Date of the Permit [IC13-15-5-3]
- B.3 Revocation of Permits [326 IAC 2-1-9(b)]
- B.4 Permit Review Rules [326 IAC 2]
- B.5 First Time Operation Permit [326 IAC 2-1-4]
- B.6 General Operation Conditions
- B.7 Preventive Maintenance Plan [326 IAC 1-6-3]
- B.8 Transfer of Permit [326 IAC 2-1-6]
- B.9 Permit Revocation [326 IAC 2-1-9]
- B.10 Availability of Permit [326 IAC 2-1-3(I)]

SECTION C SOURCE OPERATION CONDITIONS

Emission Limitations and Standards

- C.1 PSD Existing Major Source Status [326 IAC 2-2] [40 CFR52.21]
- C.2 Opacity [326 IAC 5-1]
- C.3 Fugitive Dust Emissions [326 IAC 6-4]
- C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]
- C.5 Operation of Equipment

Testing Requirements

- C.6 Performance Testing [326 IAC 3-6]

Compliance Monitoring Requirements

- C.7 Compliance Monitoring
- C.8 Monitoring Methods [326 IAC 3]
- C.9 Stack Height [326 IAC 1-7]

Record Keeping and Reporting Requirements

- C.10 Annual Emission Reporting [326 IAC 2-6]
- C.11 Monitoring Data Availability
- C.12 General Record Keeping Requirements
- C.13 General Reporting Requirements

Stratospheric Ozone Protection

- C.14 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 FACILITY OPERATION CONDITIONS

Emission Limitations and Standards

- D.1.1 VOC Emissions Limit
- D.1.2 Particulate Emissions Limit (Indirect Heating Facilities) [326 IAC 6-2]
- D.1.3 PM Process Operation [326 IAC 6-3]
- D.1.4 Nitrogen Oxide (NOx) Emissions Limit

Testing Requirements

- D.1.5 Performance Testing

Compliance Monitoring Requirements

- D.1.6 Thermal Oxidizer H-1100
- D.1.7 Thermal Oxidizer H-1100 Operating Temperature
- D.1.8 Vent Oxidizer H-2100
- D.1.9 Operating Parameters
- D.1.10 Preventive Maintenance Plan
- D.1.11 Particulate Emissions Limit
- D.1.12 Particulate Emissions (Process Operations)
- D.1.13 Liquid Waste Thermal Incinerator H-1100
- D.1.14 Nitrogen Oxides (NOx)
- D.1.15 New Source Performance Standards (NSPS) 40 CFR § 60.48, Subpart Dc
- D.1.16 VOC Emissions
- D.1.17 Visible Emissions Notations
- D.1.18 Dust Collectors Inspections
- D.1.19 Broken Filters/Bag or Failure Detection
- D.1.20 Malfunction Condition
- D.1.21 NSPS, 40 CFR § 60.110b, Subpart KB

Record Keeping and Reporting Requirements

- D.1.22 Record Keeping Requirements
- D.1.23 Reporting Requirements

Quarterly Report Forms Malfunction Report

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM), and presented in the permit application.

A.1 General Information

The Permittee owns and operates an ULTEM[®] operation for plastic pellets manufacturing. This product is used by different industries for the manufacture of car parts, food trays, food containers, and plastic and rubber dishware production, etc.

Responsible Official:	Robert Richard
Source Address:	One Lexan Lane, Mt. Vernon, Indiana 47620
Mailing Address:	One Lexan Lane, Mt. Vernon, Indiana 47620-9364
SIC Code:	2821
County Location:	Posey
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Existing Major Source, under PSD Rules

A.2 Emission Units and Pollution Control Equipment Summary

The application involves the construction and operation of an expansion to the existing permitted ULTEM[®] operation by about twice the existing throughput. The expansion will affect the following existing operations: raw material storage, monomer, displacement, exchange, purification, polymerization and finishing, and it will also involve the installation of new process and control equipment (CONFIDENTIAL).

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is a major source as defined in 326 IAC 2-7-1(22). The source has submitted a Part 70 permit application (TV129-6974) on October 2, 1996. The Part 70 permit application was determined to be administratively complete on October 29, 1996.

SECTION B GENERAL CONSTRUCTION AND OPERATION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions [326 IAC 2-1-3.4]

B.1 General Construction Conditions

- (a) The data and information supplied in the application shall be considered technical support data for the determination of this permit. Prior to any change in construction which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- (b) This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1-9(b)]

Pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.4 Permit Review Rules [326 IAC 2]

Notwithstanding Construction Condition No. B.5, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.5 First Time Operation Permit [326 IAC 2-1-4]

This document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

Operation Conditions

B.6 General Operation Conditions

- (a) The data and information supplied in the application shall be considered technical support data for the determination of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- (b) The Permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC13-17) and the rules promulgated thereunder.

B.7. Preventive Maintenance Plan [326 IAC 1-6-3]

Pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:

- (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
- (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
- (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

B.8 Transfer of Permit [326 IAC 2-1-6]

Pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of this ULTEM® operation is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

B.9 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

B.10 Availability of Permit [326 IAC 2-1-3(I)]

Pursuant to 326 IAC 2-1-3(I), the Permittee shall maintain the applicable permit on the premises of the source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitation and Standards

C.1 PSD Existing Major Source Status [326 IAC 2-2] [40 CFR 52.21]

The source is an existing major source under 326 IAC 2-2, Prevention of Significant Deterioration (PSD) and 40 CFR 52.21. The increases in emissions of nitrogen oxides (NOx) and of volatile organic compounds (VOC) from the ULTEM® 2x expansion after control are each less than 40 tons per year, and the increase in emissions of each other pollutant being emitted under this expansion is less than its respective PSD significant level. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

C.2 Opacity Limitations [326 IAC 5-1-2]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the opacity from the from each facility constructed or modified (not including condensed water vapor) shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). Rule 326 IAC 6-4-2(4) regarding visible dust is not federally enforceable.

C.4 Incineration [326 IAC 4-2]

The Permittee shall not operate an incinerator or incinerate any waste except as provided in 326 IAC 4-2.

C.5 Operation of Equipment

All air pollution control equipment listed in this permit shall be in place or operated as necessary to meet the applicable requirements described in Section D of this permit.

Testing Requirements

C.6 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by the IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Monitoring Requirements

C.7 Compliance Monitoring

The compliance monitoring performed pursuant to this permit shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, as required by this permit, no more than ninety (90) days after sending to IDEM an affidavit of construction for each respective phase of construction. If due to circumstances beyond its control, this schedule cannot be met, the Permittee shall notify:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, no more than ninety (90) days after sending to IDEM an affidavit of construction for each respective phase of construction, with full justification of the reasons for the inability to meet this date and a schedule which it expects to meet. If a denial of the request is not received before the monitoring is fully implemented, the schedule shall be deemed approved.

C.8 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.9 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

Record Keeping and Reporting Requirements

C.10 Annual Emission Reporting [326 IAC 2-6]

That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

C.11 Monitoring Data Availability

- (a) At its discretion, IDEM may excuse any failure to perform observations, sampling, maintenance procedures, or recordkeeping required by this permit providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (b) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or recordkeeping shall be considered a valid reason for failure to perform the requirements.

C.12 General Record Keeping Requirements

- (a) Records of all required monitoring data and any support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available within a reasonable time. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within reasonable time.
- (b) All record keeping requirements not already legally required shall be implemented within ninety (90) days of the submission of the applicable affidavit of construction.

C.13 General Reporting Requirements

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any report shall be submitted within thirty (30) days of the end of the reporting period.
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

Stratospheric Ozone Protection

C.14 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR 82, the Permittee shall comply with the following standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D FACILITY OPERATION CONDITIONS

SECTION D.1 FACILITY CONDITIONS

The construction and operation of an expansion to the existing permitted ULTEM® operation by about twice the existing throughput. The expansion will affect the following existing operations: raw material storage, monomer, displacement, exchange, purification, polymerization and finishing, and it will also involve the installation of new process and control equipment (CONFIDENTIAL).

Emissions Limitation and Standards

D.1.1 VOC Emissions Limit

- (a) The pounds of ULTEM produced per day; water outlet temperatures; natural gas usages; pounds of waste feed usage per day; pounds of steam usage, scrubbant flow rate; number of vacuum systems associated with C-1021; and hours of bypass operation of the Vent Oxidizer shall be limited such that the summation of the emissions calculated using the equations contained in Condition D.1.16(a)(1) through (8) shall not exceed a VOC emissions limit of 195.93 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the combined VOC emissions of these emission units shall be subject to a cumulative limit such that (i) the limit on the first day shall be 0.5368 tons, (ii) the limit shall increase each day by 0.5368 tons, and (iii) the VOC emissions limit shall be 195.93 tons on the 365th day.

- (b) The pounds of ULTEM produced per day; water outlet temperatures; hours of bypass operation of the Vent Oxidizer; number of vacuum systems associated with C-1021; and natural gas usages, shall be limited such that the summation of the emissions calculated using the equations contained in Condition D.1.16 (b)(1) through (5) shall not exceed a VOC emissions limit of 39.49 tons per 365-day period, rolled on daily basis.
- (c) Compliance with this Condition (a) and (b) will make 326 IAC 2-2, the Prevention of Significant Deterioration (PSD), and 40 CFR 52.21 not applicable. This Condition will also satisfy the requirements under 326 IAC 8-1-6 (General Reduction).

D.1.2 Particulate Emissions Limit (Indirect Heating Facilities) [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4, the Particulate Matter emissions from the two (2) indirect heating facilities shall be limited as follows:

- (a) Existing 31.9 million Btu per hour (mmBtu/hr) Hot Oil Heater H-900 - 0.16 lb/mmBtu
- (b) New 31.9 million Btu per hour (mmBtu/hr) Hot Oil Heater H-900B - 0.15 lb/mmBtu

D.1.3 PM process operation (326 IAC 6-3)

326 IAC 6-3 (Process Operations) limits the PM emissions from the following facilities (CONFIDENTIAL) as follows:

Facility Stack Vent ID	Emission s limit from 326 IAC 6-3 (lb/hr)	Facility Stack Vent ID	Emission s limit from 326 IAC 6-3 (lb/hr)	Facility Stack Vent ID	Emissions limit from 326 IAC 6-3 (lb/hr)	Facility Stack Vent ID	Emission s limit from 326 IAC 6-3 (lb/hr)
SV13-035	2.91	SV13-252	1.51	SV13-298	12.0	SV13-310	7.58
SV13-050	12.0	SV13-254	2.91	SV13-299	65.4	SV13-311	7.58
SV13-051	4.26	SV13-256	4.63	SV13-300	65.4	SV13-312	7.58
SV13-064	4.10	SV13-265	7.06	SV13-301	65.4	SV13-314	7.58
SV13-070	10.0	SV13-266	7.06	SV13-302	65.4	SV13-328	65.4
SV13-071	10.0	SV13-267	7.06	SV13-303	7.58	SV13-333	7.58
SV13-165	4.76	SV13-282	6.74	SV13-304	7.58	SV13-336	65.4
SV13-166	4.76	SV13-287	2.91	SV13-305	7.58	SV13-337	65.4
SV13-167	7.58	SV13-288	2.91	SV13-306	7.58	SV13-338	40.0
SV13-168	4.76	SV13-289	4.63	SV13-307	7.58	SV13-339	2.75
SV13-170	35.4	SV13-296	12.0	SV13-308	7.58	SV13-255	0.72
SV13-251	1.51	SV13-297	12.0	SV13-309	65.4		

D.1.4 Nitrogen Oxide (NOx) Emissions Limit

The cubic feet of natural gas usage per day; pounds of waste feed usage per day; concentration of NOx (ppmv) emitted from SC-1/2, SV 13-155; gas flow rate (acf) from SC-1/2, SV 13-155; number of vacuum systems associated with C-1021; the pounds of steam usage per day; and hours of bypass operation of the Vent Oxidizer H-2100 shall be limited such that the summation of the emissions calculated using the equations contained in Condition D.1.14 (a)(1) through (4), shall not exceed a NOx emissions limit of 133.77 tons per 365-day period, rolled on daily basis.

During the first 365 days after the effective date of this permit, the combined NOx emissions of these emission units shall be subject to a cumulative limit, such that (i) the limit on the first day shall be 0.36649 tons, (ii) the limit shall increase each day by 0.36649 tons and (iii) the NOx emissions limit shall be 133.77 tons on the 365th day.

Compliance with this Condition will make 326 IAC 2-2, Prevention of Significant Deterioration (PSD), and 40 CFR 52.21 not applicable.

Testing Requirements

D.1.5 Performance Testing

Stack tests shall be performed on the Vent Oxidizer H-2100 to determine the minimum operating temperature that will achieve a 95% overall VOC control efficiency and to verify the emission factors and constants used in the spreadsheet calculations, utilizing methods approved by the Commissioner. Stack tests shall be performed on Condensers C751, C971, C801, and the Vent Scrubber PI/MMA HD to verify the emission factors and constants used in the spreadsheet calculations, utilizing methods approved by the Commissioner. The tests shall be made within 60 days after achieving maximum production rate, but no later than 180 days after receipt of the Validation Letter from the IDEM.

The test frequency shall be established in the Part 70 permit. In addition to these requirements, IDEM may require monitoring of emissions when necessary to demonstrate compliance with any applicable air pollution control rule.

Compliance Monitoring Requirements

D.1.6 Thermal Oxidizer H-1100

Only process liquid organic waste generated from Building 58 and 59 shall be burned in the Thermal Oxidizer H-1100.

D.1.7 Thermal Oxidizer H-1100 Operating Temperature

The oxidation, reduction and reoxidation furnaces of the Thermal Oxidizer H-1100 shall each operate at a minimum temperature of 1800 degrees Fahrenheit (°F) for a minimum retention time of one second. This will prevent the formation of dioxins.

D.1.8 Vent Oxidizer H-2100

- (a) The Vent Oxidizer H-2100 shall operate when the Displacement Vent Condenser C-1001, Exchange Vent Condenser C-1021, Lift Station S-801, or the Water Stripper T-105 is in operation as necessary to comply with Conditions D.1.1(a) and D.1.1(b).
- (b) The Vent Oxidizer H-2100 shall maintain an operating temperature of 650 degrees Fahrenheit (°F) or the temperature determined in the most recent stack tests to maintain at least 95% overall VOC control efficiency. The temperature of the exhaust from the vent oxidizer shall be recorded at least once each minute whenever it is operating.

D.1.9 Operating Parameters

The following control units shall be operated as follows:

- | | | | |
|-----|--|---|--|
| (a) | Emission Unit, V-750
Vent Condenser, C751
SV13-047 | - | Tempered water outlet temperature will be monitored and VOC emissions calculated pursuant to the VOC emission caps in Condition D.1.1(a) and D.1.1(b). |
| (b) | Emission Unit, V-970
Vent Condenser, C971
SV13-048 | - | Tempered water outlet temperature will be monitored and VOC emissions calculated pursuant to the VOC emission caps in Condition D.1.1(a) and D.1.1(b). |
| (c) | Emission Unit, S-800
Vent Condenser, C801
SV13-056 | - | Tempered water outlet temperature will be monitored and VOC emissions calculated pursuant to the VOC emission cap in Condition D.1.1(a). |

- (d) Emission Unit, PI/MMA HD - Scrubbant water flow rate (gpm) will be monitored and VOC emissions calculated pursuant to the VOC emissions cap in Condition D.1.1(a).
Vent Scrubber
SV13-062

D.1.10 Preventive Maintenance Plan

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the 5 control devices described in Conditions D.1.8 and D.1.9, but not before any such control device is operated..

Compliance Determination Requirements

D.1.11 Particulate Emissions Limit

The Particulate Emissions limit for the existing 31.9 mmBtu/hr Hot Oil Heater H-900 and the new 31.9 mmBtu/hr Hot Oil Heater H-900B in Condition D.1.3 shall be determined using the following equation:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input

Q = Total source maximum operating capacity rating in mmBtu/hr heat input

D.1.12 Particulate Emissions (Process Operations)

The pounds per hour PM emissions limit from 326 IAC 6-3, as referenced in Condition D.1.3, shall be determined using the following equations:

- (a) For process weight rate less than one hundred (100) lbs/hr:

PM emissions are not regulated.

- (b) For process weight rate between one hundred and sixty thousand (100-60,000) lbs/hr:

$$E = 4.10 P^{0.67}$$

- (c) For process weight rate in excess of sixty thousand (60,000) lbs/hr:

$$E = 55.0 P^{0.11} - 40$$

Where: E = PM allowable emissions in pounds per hour

P = Process weight rate in tons per hour

D.1.13 Liquid Waste Thermal Incinerator H-1100

Pursuant to 326 IAC 4-2-2 (Incinerators), this natural gas-fired incinerator, rated at 16.3 mmBtu/hr shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules).
- (d) Be maintained properly as specified by the manufacturer and approved by IDEM.
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved by the IDEM.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented.
- (h) Not create a nuisance or a fire hazard.
- (i) Not emit particulate matter (PM) in excess of 0.3 pounds per 1000 pounds of dry exhaust gas at standard conditions corrected to 50% excess air.

The operation of this incinerator shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

D.1.14 Nitrogen Oxides (NOx)

- (a) For purposes of determining compliance with Condition D.1.4, the daily NOx emissions shall be calculated as the sum of the daily emissions calculated using the equations in paragraphs (a)(1) through (4) as follows:
 - (1) The daily NOx emissions from the each of the 3 following emissions units (H-900, SV13-049; H-1100, SV13-098; and H-900B, SV13-321) are based on the following equation: Emissions = (scf natural gas used/day) x emissions factor (lb. NOx/scf natural gas) + [for H-1100 only] (pounds of waste feed/day) x emissions factor (lb. NOx/lb. waste). See Attachment C, Spreadsheets for detail calculations.
 - (2) The daily NOx emissions from the following emission unit (SC-1/2, SV13-155) are based on the following equation: Emissions = emission factor (lb. NOx/ppmv*acf) x concentration of NOx in stack (ppmv) x stack flow (acf). See Attachment C, Spreadsheets for detail calculations.

- (3) The daily NOx emissions from the following emissions unit (STEAM, SV13-STEAM) are based on the following equation: Emissions = (lb. steam usage at ULTEM operation/day) x emissions factor (lb. NOx/lb. steam usage). See Attachment C, Spreadsheets for detail calculations.
- (4) The daily NOx emissions from the following emission unit (H-2100, SV13-346) are based on the following equation: Emissions = [(scf natural gas used/day) x emission factor (lb NOx/scf natural gas)] + [(constant (lb TEA/day) x (number of vacuum systems associated with C-1021) - constant (lb TEA/day)) x emissions factor (lb NOx/lb TEA) x (hours/day flow vented to SV 13-346) x (1 day/24 hours)]. See attachments C, Spreadsheets for detail calculations.

The sum of the NOx emissions from each of the emissions units above will equal the total daily NOx emissions from the ULTEM operation.

- (b) The source may install a low-NOx burner for either or both of the Hot Oil Heaters. Corresponding low-NOx burner emission factors will be utilized in the NOx emissions calculations under Condition D.1.14(a).
- (c) The Permittee shall install, calibrate, maintain, and operate a NOx Emissions Monitor on the NOx Containment System, SC-1/2 vent SV13-155.

D.1.15 New Source Performance Standards (NSPS) 40 CFR § 60.48, Subpart Dc

Pursuant to 40 CFR § 60.48c, Subpart Dc, Subsections (a), (g) and (i), the existing 31.9 mmBtu/hr and the new 31.9 mmBtu/hr Natural gas-fired Hot Oil Heaters shall comply with the following requirements:

- (a) Under Subsection (a) of § 60.48c, the Permittee shall submit notification of the date of construction, or reconstruction, anticipated startup and actual startup of the new Hot Oil Heater as provided by 40 CFR § 60.7. The notification shall include:
 - (1) The design heat input capacity of the Hot Oil Heater and identification of the fuel to be combusted; and
 - (2) the annual capacity factor at which the Permittee anticipates operating the Hot Oil Heater, based on all fuels fired and based on each individual fuel fired.
- (b) Under Subsection (g) of § 60.48c, the Permittee shall maintain records of the amounts of each fuel combusted during each day for each of the Hot Oil Heaters.
- (c) Under Subsection (i) of § 60.48c, all records required by § 60.48c shall be maintained by the Permittee for each of the Hot Oil Heaters for a period of two (2) years following the date of such record.

D1.16 VOC Emissions

- (a) For purposes of determining compliance with Condition D.1.1(a), the daily VOC emissions shall be calculated as the sum of the daily emissions calculated by equations (1) through (8) as follows:
- (1) The daily VOC emissions from each of the 14 following emissions units (C-1011, SV13-042; V-700, SV13-044; V-710, SV13-045; F-785, SV13-050; F-205, SV13-051; V-753, SV13-054; C-861, SV13-057; W-515, SV13-075; MS-361, SV13-172; V-1550, SV13-283; V-1565B, SV13-285; V-790, SV13-279; F-205B, SV13-341; and FUG, SV13-FUG) are based on the following equation: $\text{Emissions} = (\text{lb. ULTEM produced/day}) \times \text{emission factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)}$. See Attachment A, Spreadsheets for detail calculations.
 - (2) The daily VOC emissions from each of the following 2 emissions units (V-750 (C751), SV13-047; and C-971, SV13-048) are based on the following equation: $\text{Emissions} = \text{constant} \times (\text{lb. ULTEM produced/day}) \times e^{\text{exp}(\text{constant} \times \text{water outlet temperature (degrees Celsius)})}$. See Attachment A, Spreadsheets for detail calculations.
 - (3) The daily VOC emissions from the following emissions unit (S-800, SV13-056) are based on the following equation: $\text{Emissions} = \text{constant} \times e^{\text{exp}(\text{constant} \times \text{water outlet temperature (degrees Celsius)})}$. See Attachment A, Spreadsheets for detail calculations.
 - (4) The daily VOC emissions from the following emissions unit (PI/MMA HD, SV13-062) are based on the following equation: $\text{Emissions} = \text{constant} \times e^{\text{exp}(\text{constant}/(\text{scrubbing flow rate (lb/hr)}) \times \text{exp}(\text{constant}))}$. See Attachment A, Spreadsheets for detail calculations.
 - (5) The daily VOC emissions from each of the 16 following emissions units (V-730, SV13-046; V-904, SV13-058; V-903, SV13-059; T-744, SV13-063; 100-T, 13-360 (formerly SV13-141A); 102-T, SV13-361 (formerly SV13-141B); T-70, SV13-152; SC-1/2, SV13-155; V-79T, SV13-262; F400V, SV13-278; KO-500, SV13-317; V-903B, SV13-322; V-904B, SV13-323; T-79B, SV13-353; T-102B, SV13-354; T-70B, SV13-356) are based on the following equation: $\text{Emissions} = \text{constant (lb. VOC/day)}$. See Attachment A, Spreadsheets for detail calculations.
 - (6) The daily VOC emissions from each of the 3 following emissions units (H-900, SV13-049; H-1100, SV13-098; and H-900B, SV13-321) are based on the following equation: $\text{Emissions} = (\text{scf natural gas used/day}) \times \text{emissions factor (lb. VOC/scf natural gas)} + [\text{for H-1100 only}] (\text{pounds of waste feed/day}) \times \text{emissions factor (lb. VOC/lb. waste)}$. See Attachment A, Spreadsheets for detail calculations.
 - (7) The daily VOC emissions from the following emissions unit (STEAM, SV13-STEAM) are based on the following equation: $\text{Emissions} = (\text{lb. steam usage at ULTEM operation/day}) \times \text{emissions factor (lb. VOC/lb. steam usage)} + \text{constant (lb. VOC/day)}$. See Attachment A, Spreadsheets for detail calculations.

- (8) The combined daily VOC emissions from the following emissions units (C-1001/C-1021/S-801/T-105, SV13-346; and H-2100AOS, SV13-347) are based on the following equation: Emissions = $[[[(\text{lb. ULTEM produced/day}) \times \text{SV13-346 emissions factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)}] + (\text{constant (lb VOC/day)} \times (\text{number of vacuum systems associated with C-1021})) - \text{constant (lb VOC/day)}] \times (\text{hours/day flow vented to SV13-346}) \times (1 \text{ day/24 hours})] + [[[(\text{lb. ULTEM produced/day}) \times \text{SV13-347 emissions factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)}] + (\text{constant (lb VOC/day)} \times (\text{number of vacuum systems associated with C-1021})) - \text{constant (lb VOC/day)}] \times (\text{hours/day flow vented to SV13-347}) \times (1 \text{ day/24 hours})] + [\text{for SV13-346 only} (\text{scf natural gas used/day}) \times \text{emission factor (lb. VOC/scf natural gas)}]$. See Attachment A, Spreadsheets for detail calculations. The emission factor for SV13-346 is assumed to be 0.05 times the emission factor for SV13-347, reflecting an overall control efficiency of 95%. Performance testing conducted as required by this permit will establish the actual destruction efficiency.
- (b) For purposes of determining compliance with Condition D.1.1(b), the daily VOC emissions shall be calculated as the sum of the following:
- (1) The daily VOC emissions from each of the 3 following emissions units (C-1011, SV13-042; V-700, SV13-044; V-710, SV13-045) are based on the following equation: Emissions = $(\text{lb. ULTEM produced/day}) \times \text{emission factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)}$. See Attachment B, Spreadsheets for detail calculations.
- (2) The daily VOC emissions from the 2 following emissions units (V-750 (C751), SV13-047; V-971, SV13-048) are based on the following equation: Emissions = $\text{constant} \times (\text{lb. ULTEM produced/day}) \times e^{\text{exp}(\text{constant} \times \text{water outlet temperature (degrees Celsius)})}$. See Attachment B, Spreadsheets for detail calculations.
- (3) The daily VOC emissions from the following emissions unit (V-730, SV13-046) are based on the following equation: Emissions = $\text{constant (lb. VOC/day)}$. See Attachment B, Spreadsheets for detail calculations.
- (4) The daily VOC emissions from the following emissions unit (H-900, SV13-049) are based on the following equation: Emissions = $(\text{scf natural gas used/day}) \times \text{emissions factor (lb. VOC/scf natural gas)}$. See Attachment B, Spreadsheets for detail calculations.
- (5) The combined daily VOC emissions from the following emissions units (C-1001/C-1021/S-801/T-105, SV13-346; and H-2100AOS, SV13-347) that are attributable to former SV13-040 and former SV13-041 (being ducted to the vent oxidizer, SV13-346, as part of this project) are based on the following equation: Emissions = $[[[(\text{lb. ULTEM produced/day}) \times \text{SV13-346 emissions factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)}] + (\text{constant (lb VOC/day)} \times (\text{number of vacuum systems associated with C-1021})) - \text{constant (lb VOC/day)}] \times (\text{hours/day flow vented to SV13-346}) \times (1 \text{ day/24 hours})] + [[[(\text{lb. ULTEM produced/day}) \times \text{SV13-347 alternate emissions factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)}] + (\text{constant (lb VOC/day)} \times (\text{number of vacuum systems associated with C-1021})) - \text{constant (lb VOC/day)}] \times$

(hours/day flow vented to SV13-347) x (1 day/24 hours)]. See Attachment B, Spreadsheets for detail calculations. The emission factor for SV13-346 is assumed to be 0.05 times the emission factor for SV13-347, reflecting an overall control efficiency of 95%. Performance testing conducted as required by this permit will establish the actual destruction efficiency.

D.1.17 Visible Emissions Notations

- (a) Weekly visible emission notations of each of the ULTEM® operation dust collector stack exhausts that vent an emission unit, with allowable emissions of 10 pounds per hour or greater shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. Inspections are optional when venting to the indoors.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, when the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is a person who either (1) currently works at the ULTEM plant, has worked at the ULTEM plant for at least six (6) months, and is familiar with the process venting to the dust collector, or (2) begins working at the ULTEM plant after this permit is issued, works at the ULTEM plant at least one (1) month, and is trained in the appearance and characteristics of normal visible emissions for that specific process.

D.1.18 Dust Collector Inspections

An inspection shall be performed each calendar quarter of each dust collector on an emissions unit at the ULTEM® operation with allowable emissions of 10 pounds per hour or greater when venting to the atmosphere. Inspections are optional when venting to the indoors. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. All defective bags shall be replaced pursuant to Condition D.1.19.

D.1.19 Broken filters/Bag or Failure Detection

In the event that bag failure has been observed, the affected compartments will be shut down within eight (8) hours of the discovery of the failed bag and remain shut down until all the failed bags have been repaired or replaced. For a single compartment dust collector, the collector and the associated process will be shut down within eight (8) hours of the discovery of the failed bag and remain shut down until all the failed bags have been repaired or replaced.

D.1.20 Malfunction Condition

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of

three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM. The Permittee is encouraged, but not required, to use the Malfunction Report Form (2 pages) attached to this permit. Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment subject to the requirements of 326 IAC 1-6 shall constitute a violation of 326 IAC 1-6 and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

D.1.21 NSPS, 40 CFR § 60.110b, Subpart Kb

- (a) Pursuant to 40 CFR § 60.110b and 60.116b(a) and (b), Subpart Kb, the Permittee shall keep readily accessible records showing the dimensions of the following storage tanks and an analysis showing their capacities for the life of the source: Hot Oil Storage Tank V-904B, SV13-323; MT-701, V700 Storage Tank, SV13-044; ODCB Tank V-730, SV13-046; Contaminated Toluene Tank V750, SV13-047; Hot Oil Storage Tank V-904, SV13-058; BI surge tank, V-250, SV13-346; BI water-wash tank, V-240, SV13-346; Dry toluene surge tank, V-273, SV13-040; DA hold tank, V-500A, SV13-042; DA hold tank, V-500B, SV13-042; Wastewater surge tank, V-830, SV13-057; NPI surge tank, V-130, SV13-346; Toluene/water decanter, V-223, SV13-346; and, MMA storage tank, V-740, SV13-063.
- (b) Pursuant to 40 CFR § 60.110b and 60.116b(a), (b), and (c), Subpart Kb, the Permittee shall, for the following storage tank, keep readily accessible records showing the dimensions of the tank and an analysis showing its capacity for the life of the source, and maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period: V970 Tank, C-971, SV13-048.

Record Keeping and Reporting Requirements

D.1.22 Record Keeping Requirements

- (a) The Permittee shall maintain records in accordance with (1) through (9) below to calculate the 365-day rolling totals for VOC and NO_x emissions set forth in Conditions D.1.1(a), D.1.1(b), and D.1.4.
 - (1) The tempered water outlet temperature on each of vent condensers C751, C971, and C801 (each measured as a daily average, with at least one measurement on each condenser per hour);

- (2) The rate of the scrubbant water flow at the vent scrubber on emission unit PI/MMA HD (measured as a daily average, with at least one measurement per hour);
 - (3) The amount of ULTEM resin produced for each calendar day;
 - (4) The stack flow rate (acf) of, and the NO_x concentration (ppmv) in, the vent stream from the NO_x containment system SC-1/2 (SV13-155) (each measured as a daily average, with at least one measurement of each per hour);
 - (5) When the Displacement Vent Condenser C-1001, Exchange Vent Condenser C-1021, Lift Station S-801, or the Water Stripper T-105 is vented to the Vent Oxidizer H-2100, a log of the date, time and duration that the Vent Oxidizer H-2100 is operated and is bypassed; ;
 - (6) Amounts of natural gas fuel used by each of the existing hot oil heater H-900, the new hot oil heater H-900B, the thermal oxidizer H-1100, and the Vent Oxidizer H-2100 for each calendar day;
 - (7) Amount of liquid waste feed to the thermal oxidizer H-1100 for each calendar day;
 - (8) Steam usage at the ULTEM plant for each calendar day; and
 - (9) The number of vacuum systems associated with C-1021.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.23 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1(a), D.1.1(b), and D.1.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
Quarterly Summary

Source Name: General Electric Company
Source Address: One Lexan Lane, Mt. Vernon, Indiana 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620-9364
Construction Permit No.: CP129-10588-00002
Facility: ULTEM Operation
Parameter: VOC
Limit: 195.93 tons rolled on a 365-day basis

During the first 365 day after the effective date of this permit, the combined VOC emissions of these emission units shall be subject to a cumulative limit such that (i) the limit on the first day shall be 0.5368 tons, (ii) the limit shall increase each day by 0.5368 tons, and (iii) the VOC emissions limit shall be 195.93 tons on the 365th day.

Month: _____ Year: _____

Day	VOC Emissions this day (ton/day)	VOC Emissions for the last 365 - day period	Day	VOC Emissions this day (ton/day)	VOC Emissions for the last 365 - day period
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			TOTAL		

Note: This Report Form shall be submitted with a detail emissions calculation spreadsheet.

Submitted by: _____ Signature: _____
Title/Position: _____ Date: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

Quarterly Summary

Source Name: General Electric Company
Source Address: One Lexan Lane, Mt. Vernon, Indiana 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620-9364
Construction Permit No.: CP129-10588-00002
Facilities: SV13-040 and 13-041 (which vent to H-2100, Vent Oxidizer, SV13-346); and 13-042, -044, -045, -046, -047, -048, and -049
Parameter: VOC
Limit: 39.49 tons rolled on a 365-day basis

Month: _____ Year: ____

Day	VOC Emissions this day (ton/day)	VOC Emissions for the last 365 - day period	Day	VOC Emissions this day (ton/day)	VOC Emissions for the last 365 - day period
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			TOTAL		

Note: This Report Form shall be submitted with a detail emissions calculation spreadsheet.

Submitted by: _____ Signature: _____
Title/Position: _____ Date: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
Quarterly Summary

Source Name: General Electric Company
Source Address: One Lexan Lane, Mt. Vernon, Indiana 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620-9364
Construction Permit No.: CP129-10588-00002
Facility: Hot Oil Heaters H-900, H-900B; Liquid Waste Incinerator H-1100; NOx Containment System SC-1/2; Vent oxidizer H-2100; Steam Boiler 13-STEAM; and C-1021
Parameter: NOx
Limit: 133.77 tons rolled on a 365-day basis

During the first 365 days after the effective date of this permit, the combined NOx emissions of these emission units shall be subject to a cumulative limit, such that (i) the limit on the first day-shall be 0.36649 tons, (ii) the limit shall increase each day by 0.36649 tons and (iii) the NOx emissions limit shall be 133.77 tons on the 365th day.

Month: _____ Year: _____

Day	NOx Emissions this day (ton/day)	NOx Emissions for the last 365 - day period	Day	NOx Emissions this day (ton/day)	NOx Emissions for the last 365 - day period
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			TOTAL		

Note: This Report Form shall be submitted with a detail emissions calculation spreadsheet showing the breakdown of fuel, feed rates, & actual NOx monitor reading from each facility.

Submitted by: _____ Signature: _____
Title/Position: _____ Date: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

FAX NUMBER - 317 233-5967

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ?____, 100 LBS/HR VOC ?____, 100 LBS/HR SULFUR DIOXIDE ?____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ?____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: General Electric Company _____ PHONE NO. (812) 831-4274

LOCATION: (CITY AND COUNTY) Mt Vernon, Posey _____

PERMIT NO. 129-9320 AFS PLANT ID: 129-00002 AFS POINT ID: _____ INSP: _____

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON:

—

DATE/TIME MALFUNCTION STARTED: ____/____/19____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION:

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION:

MEASURES TAKEN TO MINIMIZE EMISSIONS:

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL * SERVICES:

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE)

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)
MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

FAX NUMBER - 317 233-5967

*SEE REVERSE

PAGE 1 OF 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO₂, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

326 IAC 1-2-39 “Malfunction” definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name:	General Electric Company
Source Location:	One Lexan Lane, Mt. Vernon, Indiana 47620
County:	Posey
Construction Permit No.:	CP-129-10588-00002
SIC Code:	2821
Permit Reviewer:	Aida De Guzman

The Office of Air Management (OAM) has reviewed an application from General Electric Company relating to the construction and operation of an expansion to the existing permitted ULTEM[®] operation by about twice the existing throughput. The expansion will affect the following existing operations: raw material storage, monomer, displacement, exchange, purification, polymerization and finishing, and it will also involve the installation new equipment, and control units (claimed as CONFIDENTIAL):

The issuance of this permit will supersede the following air approvals to the ULTEM[®] operation: Amendment to CP (65) 1562, issued March 11, 1985; Amendment to PC (65) 1656, issued May 11, 1988; Correction Request 129-5608, dated October 29, 1996; PC (65) 1562, issued August 27, 1984; PC (65) 1585, issued July 30, 1985; PC (65) 1656, issued September 18, 1987; PC (65) 1710, issued September 22, 1988; CP129-5608, issued August 5, 1996; Registrations issued on April 11, 1984; February 28, 1990; May 18, 1990; July 12, 1990, and 129-2226, issued on October 28, 1991.

Air Pollution Control Justification as Integral Part of the Process

The following questions from the EPA Memo dated November 27, 1995 "Criteria for Determining Whether Equipment is Air Pollution Control Equipment or Process Equipment" should be considered in making such case-by case judgments as to whether certain devices or practices should be treated as pollution controls or inherent to the process:

- (1) Is the primary purpose of the equipment to control air pollution?
- (2) Where the equipment is recovering product, how do the cost saving?
- (3) Would the equipment be installed if no air quality regulations are in place?

Some dust collectors used in the ULTEM[®] operations are considered integral part of the process meeting the above EPA criteria:

Furthermore, the dust collectors were installed for the following reasons:

- (1) Some control equipment above has been installed to protect downstream process equipment from being damaged. Without the collectors/filters, the useful lives of their respective downstream process equipment would be significantly shortened. These collectors/filters would be used regardless of the existence of any air pollution control regulations.
- (2) The dust collected by some collectors/filters is organic and an explosive hazard. It is collected to avoid creating an explosive hazard, as well as to avoid creating a messy area and exposing workers to the dust. Thus, the purposes of these collectors/filters are safety, housekeeping and industrial hygiene. These collectors/filters will be operated regardless of the existence of any air pollution control regulations, and
- (3) Most of the dust collectors/filters collect at least 80% of the raw material and the collected material is recycled back into the process.

Based on the above reasons these dust collectors/filters are inherent to the process. Their Potential PM Uncontrolled Emissions are determined after the dust collector/filter. Therefore, **no** Parametric Monitoring will be required of them, but instead Visible Emission Notation is required to demonstrate continuous compliance with the air quality regulations.

Recommendation

The expansion of the ULTEM[®] operation has been issued an Interim construction Permit I129-9320-00002, on February 13, 1998.

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 22, 1997, and was numbered CP129-9320, with additional information received on February 9, 1998, March 5 and 17, 1998. On May 22, 1998, OAM received a totally revised data on the submitted application, with additional information received on August 18, 1998, and September 1, 1998. A preliminary permit draft was made on September 3, 1998 for CP129-9320 and sent the source a copy for comments prior to the public notification. On January 29, 1999, the timeclock has been re-started, because the source has made many changes to the application. A new CP no. (129-10588) was assigned to the permit, and the source was informed about it.

The source has requested that this application be reviewed under the 326 IAC 2 rules in place at the time of the original submission of the application, that was before December 25, 1998 (new 326 IAC 2 rules implementation).

Potential Emissions Calculations

(a) ULTEM® Operations Emissions:

An emissions calculation for the ULTEM® operations has been submitted by the source (spreadsheets pages 1 through 7, which are claimed "Confidential"). The emission factors used in the calculation were based on AP-42 emission factors, mass balance equation, engineering analysis and stack test data.

The PM emissions before control, submitted by the source took into account that the dust collector is an integral part of the process being controlled.

(b) Hot Oil Heaters Natural Gas Combustion Emissions:

One existing 31.9 mmBtu/hr, H-900 and one new 31.9 mmBtu/hr, H-900B:
Using Emission Factor in AP-42, Supplement D, March 1998 (small boilers) for natural gas combustion.

Methodology:

$$\begin{aligned}\text{Pot'l Throughput (MMCF)} &= \text{Heat Input Capacity (mmBtu/hr)} * 8760 \text{ hr/yr} * \text{MMCF}/1,020 \text{ mmBtu} \\ &= 2(31.9 \text{ mmBtu/hr}) * 8760 \text{ hr/yr} * \text{MMCF}/1,020 \text{ mmBtu} \\ &= 547.93 \text{ MMCF/yr}\end{aligned}$$

$$\text{Emissions, ton/yr} = \text{Throughput, MMCF/yr} * \text{Ef, lb/MMCF} * \text{ton}/2000 \text{ lb}$$

Pollutant	Emission Factor (lb/MMCF)	Potential Emissions (ton/yr)
PM = PM10	7.6	2.08
SO2	0.6	0.16
NOx	100	27.4
VOC	5.5	1.51
CO	84.0	23.0

(c) 16.3 mmBtu/hr Liquid Waste Incinerator, H-1100 Emissions : Using Emission Factor in AP-42, Supplement D, March 1998 (small boilers) for natural gas combustion. Waste feed is 8,000 lb/hr, the design capacity.

Calculating the natural gas with methane (MW = 16 lb/lb-mole)
Using gas equation $PV = nRT$

$$\begin{aligned}
 P &= 1 \text{ atm} & R &= \text{Gas Constant} = 0.7302 \text{ cf, atm/lb-m, R} \\
 n &= 1 \text{ lb-mole} & T &= 68^\circ\text{F} = 528^\circ\text{R} \\
 V &= 0.7302 * 528 / 1 = 385.5 \text{ cf/lb-mole} = 385.5 / 16 = 24.09 \text{ cf/lb} \\
 \text{Nat. Gas Throughput} &= 661.5 \text{ lb/hr} * 24.09 \text{ cf/hr} = 15,935.5 \text{ cf/hr} \\
 &= 0.015936 \text{ MMCF/hr}
 \end{aligned}$$

Pollutant	Natural Gas Combustion		Liquid Waste Combustion	
	Emission Factor (lb/MMCF)	Potential Emissions (ton/yr)	Emission Factor (lb/lb)	Potential Emissions (ton/yr)
PM = PM10	7.6	0.53	7.07 E-05	2.48
SO2	0.6	0.04	0.0	0.0
NOx	100 (w/ FGR)	6.98	4.03 E-04	14.12
VOC	5.5	0.38	5.154 E-05	1.81
CO	84.0	5.86	2.017 E-05	0.71

(d) Post-Project Steam Usage Emissions:

Using Emission Factor in AP-42, Supplement D, March 1998 (small boilers) for natural gas combustion.

From the boiler historical usage:

Steam Heating Value = 1210 Btu/lb steam

Using 4.08×10^6 pounds of steam / day

NOx Emissions = 0.07 lb NOx/MMBtu

$$\begin{aligned}
 \text{NOx} &= 100 \times 10^{-6} \text{ lb NOx/lb} * 4.08 \times 10^6 \text{ lb/day} * \text{ton}/2000 \\
 &= \text{lb} * 365 \text{ day/yr} \\
 &= 74.46 \text{ ton/yr}
 \end{aligned}$$

$$\begin{aligned}
 \text{CO} &= 84 \text{ lb/MMCF} * \text{MMCF}/1020 \text{ MMBtu} * 0.001210 \\
 &= \text{MMBtu/lb} * 4.08 \times 10^6 \text{ lb/day} * \text{ton}/2000 \text{ lb} * 365 \\
 &= \text{day/yr} \\
 &= 74.20 \text{ ton/yr}
 \end{aligned}$$

$$\begin{aligned}
 \text{VOC} &= 5.5 \text{ lb/MMCF} * \text{MMCF}/1020 \text{ MMBtu} * 0.001210 \\
 &= \text{MMBtu/lb} * 4.08 \times 10^6 \text{ lb/day} * \text{ton}/2000 \text{ lb} * 365 \\
 &= \text{day/yr} \\
 &= 4.86
 \end{aligned}$$

$$\begin{aligned}
 \text{PM}_{10} &= 7.6 \text{ lb/MMCF} * \text{MMCF}/1020\text{MMBtu} * 0.001210 \\
 &\quad \text{MMBtu/lb} * 4.08 \times 10^6 \text{ lb/day} * \text{ton}/2000 \text{ lb} * 365 \\
 &\quad \text{day/yr} \\
 &= 6.71 \text{ ton/yr} \\
 \text{SO}_2 &= 0.6 \text{ lb/MMCF} * \text{MMCF}/1020\text{MMBtu} * 0.001210 \\
 &\quad \text{MMBtu/lb} * 4.08 \times 10^6 \text{ lb/day} * \text{ton}/2000 \text{ lb} * 365 \\
 &\quad \text{day/yr} \\
 &= 0.53 \text{ ton/yr}
 \end{aligned}$$

(e) NOx Containment System SC-1/2 Emissions:

$$\begin{aligned}
 &0.12 \times 10^{-6} \text{ lb NOx}/(\text{ppmv} * \text{acf}) * \text{Stack NOx, ppmv} * \text{Stack Flow, acf} * \text{ton}/2000 \text{ lb} \\
 &= \text{NOx Emissions, ton/yr}
 \end{aligned}$$

NOx Emissions Limit:

- (a) The source requested a NOx emission cap in order to have an operating flexibility while complying with the limit. Raw material usages are not an option for limiting the NOx emissions from the following operations because there is no raw material usage on the NOx containment system. This system is an emergency scrubber which normally operates in standby mode to reduce the impact of a potential accidental release from various operations. The additional steam usage from the existing permitted steam boiler due to the ULTEM expansion is counted towards the incremental NOx emissions.

Emission Units	SV/ID	Value Monitored	Emission Factor	Emission Factor Source
Hot Oil Heater H-900	13-049	Natural Gas Usage (cubic feet)	50 lb/MMCF	AP-42, 2/98, Low NOx Burner
			100 lb/MMCF	AP-42, 2/98, Uncontrolled Boilers
Hot Oil Heater H-900B	13-321	Natural Gas Usage (cubic feet)	50 lb/MMCF	AP-42, 2/98, Low NOx Burner
			100 lb/MMCF	AP-42, 2/98, Uncontrolled Boilers
Thermal Oxidizer H-1100	13-098	Liquid Waste Feed (lbs)	4.03×10^{-4} lb NOx/lb waste	1993, NOx Testing
		Natural Gas Usage (cubic feet)	100 lb/MMCF	AP-42, 2/98, Uncontrolled Boilers

NOx Containment System SC-1/2	13-155	Stack NOx, ppmv	0.12 x10 ⁻⁶ NOx / (ppmv * acf)	392 cf gas /lb-mole gas @ 25 °C & 1 atm 46 lb/lb-mole (mol. wt. of NOx) 1,000,000 part/million parts Ef = (46/392)/1,000,000 = 0.12 x10 ⁻⁶ lb
		Stack Flow (actual cubic feet)		
Steam Boiler	13-STEAM	Steam Usage (lbs)	84.7 x10 ⁻⁶ lb NOx /lb steam	0.07 lb NOx x10 ⁻⁶ Btu (historical ave.) 1210 Btu/lb steam Ef = 0.07 * 1210 = 84.7x10 ⁻⁶ lb/lb
Vent Oxidizer	13-346	Natural Gas Usage (cubic feet)	100 lb/MMCF	AP-42, 2/98 Uncontrolled Boilers
		No. of vacuum systems associated with C-1021	2-5	GEP engineering design, 1999
		Hours per day oxidizer operated	0-24	

VOC Emissions Limit

The source requested a VOC emission cap in order to have operating flexibility while complying with the limit. The Permittee has submitted a confidential spreadsheet dated January 19, 1999 that lists each VOC-emitting emission unit in the ULTEM operation, its corresponding SV/ID, the equation used to calculate the VOC emissions for such emissions unit, the value(s) monitored to insert into the equation, and the corresponding emission factor(s) and constant(s) used in the equation.

In addition, the source is implementing a VOC emissions cap to demonstrate compliance with an existing VOC limit (from PC (65) 1562, issued August 27, 1984) on the following group of emissions units: SV13-040 (will be ducted to Vent Oxidizer 13-346 as part of this project), 13-041 (will be ducted to Vent Oxidizer 13-346 as part of this project), 13-042, and 13-044 through -049. While the 1984 construction permit states that the limit also applies to SV13-043, that emissions unit (and vent) were never built. The 1984 construction permit established a VOC emissions limit of 22 tpy. However, this limit was established in order to avoid the application of the Prevention of Significant Deterioration program, 326 IAC 2-2 and 40 CFR 52.21. As such, the limit should have been 39.49 tpy. This permit corrects the limit to 39.49 tpy.

Summary of Emissions:

Future Potential Emissions - the emissions from the existing source and the emissions from the modification, based on 8,760 hours per year.

Past Actual Emissions - the emissions generated prior to the modification, based on the actual hours of operation.

Pollutant	Future Potential Emissions (ton/yr)	Past Actual Emissions (ton/yr)	Emissions From Project (ton/yr)	PSD Significant Levels (ton/yr)
PM	29.46	13.75	15.71	25
PM10	26.61	13.41	13.19	15
VOC	195.93	156.44	39.49	40
NOx	133.77	94.28	39.49	40
SO2	0.74	0.38	0.36	40
CO	128.94	64.70	64.25	100
HAPs	132.89	98.81	34.08	25 major level for combination of HAPs 10 for single HAP

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (PM emissions rate are based on 326 IAC 6-3) (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	3,457.6	29.27
Particulate Matter (PM10)	3,457.6	26.42
Sulfur Dioxide (SO ₂)	0.73	0.73
Volatile Organic Compounds (VOC)	568.61	568.61
Carbon Monoxide (CO)	125.0	125.0
Nitrogen Oxides (NO _x)	133.8	133.8
Single Hazardous Air Pollutant (HAP)	460.7	460.7
Combination of HAPs	460.7	460.7

- (a) Allowable emissions for those processes emitting PM are determined from the lower of potential emissions and rule 326 IAC 6-3 or 6-2, as applicable. See attached spreadsheets for detailed calculations.

- (1) 326 IAC 6-3 mandates a PM emissions rate from the following facilities using below equation:

- (a) For process weight rate less than 100 pounds per hour:
PM emissions are not regulated.
- (b) For process weight rate between 100 and 60,000 pounds per hour:
 $E = 4.10 P^{0.67}$
- (c) For process weight rate in excess of 60,000 pounds per hour:
 $E = 55.0 P^{0.11} - 40$

Where:

E = PM emissions rate in pounds per hour (lb/hr).
P = Process weight rate in tons per hour (ton/hr).

Emission Unit Stack Vent ID	Post-Project Allowable Emissions (lb/hr)
SV13-035	2.91
SV13-050	12.0
SV13-051	4.26
SV13-064	4.10
SV13-070	10.0
SV13-071	10.0
SV13-165	4.76
SV13-166	4.76
SV13-167	7.58
SV13-168	4.76
SV13-170	35.4
SV13-251	1.51
SV13-252	1.51
SV13-254	2.91
SV13-256	4.63
SV13-265	7.06
SV13-266	7.06

SV13-267	7.06
SV13-282	6.74
SV13-287	2.91
SV13-288	2.91
SV13-289	4.63
SV13-296	12.0
SV13-297	12.0
SV13-298	12.0
SV13-299	65.4
SV13-300	65.4
SV13-301	65.4
SV13-302	65.4
SV13-303	7.58
SV13-304	7.58
SV13-305	7.58
SV13-306	7.58
SV13-307	7.58
SV13-308	7.58
SV13-309	65.4
SV13-310	7.58
SV13-311	7.58
SV13-312	7.58
SV13-314	7.58
SV13-328	65.4
SV13-333	7.58
SV13-336	65.4
SV13-337	65.4
SV13-338	40.0
SV13-339	2.75

(2) 326 IAC 6-2 (Indirect Heating Sources):

This rule mandates a Particulate Matter emissions limit using the following equation for the existing 31.9 mmBtu/hr Hot Oil Heater, and the new 31.9 mmBtu/hr Hot Oil Heater: This is to correct the previous rule determination for this one existing heater (Operation Condition No. 4 of CP129-5608, issued August 5, 1996, which established a PM emissions limit of 0.1 lb/mmBTU). This correction (which has the effect of increasing the limit) should not be counted as an increase caused by this project. However, the PM emissions from this existing heater are included in the calculation of post-project emissions.

Existing 31.9 mmBtu/hr Hot Oil Heater, constructed after September 21, 1983, is subject to 326 IAC 6-2-4 :

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where: Pt = pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input

Q = Total source maximum operating capacity rating in mmBtu/hr heat input

At the time the existing 31.9 mmBtu/hr Hot Oil Heater was constructed, the total source maximum operating capacity heat input was 1529.5 mmBtu/hr (including the then-new hot oil heater H-900). Thus, the correct PM limit is:

$$= \frac{1.09}{(1529.5)^{0.26}}$$

$$= 0.16 \text{ lb/mmBtu}$$

$$0.16 \text{ lb/mmBtu} * 31.9 \text{ mmBtu/hr} * \text{ton}/2000 \text{ lb} * 8760 \text{ hr/yr} = 22.4 \text{ ton/yr}$$

The existing hot oil heater is in compliance with this rule since its potential PM emissions of 1.02 ton/yr, which is equivalent to 0.0075 lb/mmBtu, are less than the PM emission rate from 326 IAC 6-2.

New 31.9 mmBtu/hr hot oil heater:

$$Pt = \frac{1.09}{Q^{0.26}}$$

At the present time, the total source maximum operating capacity heat input is 2337.2 mmBtu/hr (including the new 31.9 mmBtu/hr hot oil heater H-900B). Thus, the PM limit is:

$$= \frac{1.09}{(2337.2)^{0.26}}$$

$$= 0.15 \text{ lb/mmBtu}$$

- (b) The potential emissions before control are less than the regulatory emissions limits. Therefore, the potential emissions before control are the allowable emissions and are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM, PM₁₀, VOC, CO, and NO_x are each greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.
- (d) Allowable emissions (as defined in the Indiana Rule) of a single hazardous air pollutant (HAP) are greater than 10 tons per year and/or the allowable emissions of any combination of the HAPs are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, a construction permit is required.

County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Posey County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Posey County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
General Electric Company was determined to be one of the 28 listed source categories under 326 IAC 2-2, being a chemical plant as the primary operation. However, the fugitive PM emissions from the ULTEM[®] operation are not quantifiable, therefore, its fugitive PM emissions are not counted toward determination of PSD applicability.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions based on the Air Facility Subsystem Quick Look Report dated July 24, 1997):

Pollutant	Emissions (ton/yr)
PM	180.0
PM ₁₀	180.0
SO ₂	7,674.9
VOC	967.5
CO	433.5
NO _x	3,303.7

- (a) This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Post-Modification Potential Emissions	29.46	26.61	0.74	195.93	128.94	133.77
Baseline Actual Emissions	13.75	13.41	0.38	156.44	64.7	94.28
Contemporaneous Increases	0.0	0.0	0.0	0.0	0.0	0.0
Contemporaneous Decreases	0.0	0.0	0.0	0.0	0.0	0.0
Net Emissions	15.71	13.19	0.36	39.49	64.25	39.49
PSD Significant Level	25	15	40	40	100	40

- (a) Calculation of contemporaneous increases and decreases made by the source for the last five years is not required.
- (b) This modification to an existing major stationary source is not major because the net emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-129-6794-00002) application on October 2, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

- (a) New Source Performance Standards
- (1) 40 CFR § 60.110b, Subpart Kb- Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) with a capacity greater than or equal to 40 cubic meters, that is used to store volatile organic liquids (VOL's) for which construction, reconstruction or modification commenced after July 23, 1984.

- (A) Pursuant to § 60.116b(a) and (b) of this NSPS, the Permittee shall keep readily accessible records showing the dimensions of the following storage vessels and an analysis showing their capacities for the life of the source.

Tank ID	Construction, Reconstruction, or Modification Date	Nominal Tank Capacity (cubic meters)	Maximum True Vapor Pressure (kPa)
Tank SV13-323	Proposed	93.1	0.009
Tank V13-044	1985	57	N/A
Tank SV13-046	1985	76.3	0.5
Tank SV13-047	1985	89.0	7.9
Tank V13-058	1985	90.6	0.009
Tank SV13-346	1985	44.8	N/A
Tank SV13-346	1985	48.8	N/A
Tank SV13-040	1985	40.1	N/A
Tank SV13-042	1985	57.5	N/A
Tank SV13-042	1985	57.5	N/A
Tank SV13-057	1985	57.2	N/A
Tank SV13-346	1985	61.7	N/A
Toluene/water decanter SV13-346	1985	57.8	N/A
Tank SV13-063	1985	44.4	N/A

- (B) Pursuant to § 60.116b(a), (b), and (c) of this NSPS, the Permittee shall, for the storage vessel listed below, (1) keep readily accessible records showing the dimensions of the storage vessel and an analysis showing its capacity for the life of the source, and (2) maintain a record for at least two years of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

Tank ID	Construction, Reconstruction, or Modification Date	Nominal Tank Capacity (cubic meters)	Maximum True Vapor Pressure (kPa)
Tank SV13-048	1985	79.2	19.4

- (2) 40 CFR § 60.40c, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units for which Construction, Reconstruction, or Modification is commenced after June 9, 1989, with a maximum design heat input of 100 mmBtu/hr or less but greater than 10 mmBtu/hr.

The existing 31.9 mmBtu/hr and the new 31.9 mmBtu/hr Natural gas-fired Hot Oil Heaters are subject to § 60.48 Subsections (a), (g) and (i) of this NSPS.

- (a) Under Subsection (a) of § 60.48, the owner/operator of the new Hot Oil Heater shall submit notification of the date of construction, or reconstruction, anticipated startup and actual startup as provided by § 60.7 of this part. The notification shall include:
- (1) The design heat input capacity of the new Hot Oil Heater and identification of the fuel to be combusted; and
 - (2) the annual capacity factor at which the owner/operator anticipates operating the new Hot Oil Heater, based on all fuels fired and based on each individual fuel fired.
- (b) Under Subsection (g) § 60.48, the owner/operator of the two (2) Hot Oil Heaters shall maintain records of the amounts of each fuel combusted during each day.
- (c) Under Subsection (i) § 60.48, all records required in this Section shall be maintained by the owner or operator of the two Hot Oil Heaters for a period of two (2) years following the date of such record.
- (3) 40 CFR § 60.610, Subpart III - Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes.

This NSPS applies to each air oxidation reactor unit for which Construction, Modification or Reconstruction commenced after October 21, 1983 that produces any chemical or compounds listed in this NSPS as a product, co-product, by-product or intermediate product.

The ULTEM® operation is not subject to this NSPS because this operation does not involve any chemical or compounds production listed in this NSPS as a product, co-product, by-product or intermediate product.

- (4) 40 CFR § 60.660, Subpart NNN - Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.

This NSPS applies to each distillation unit for which Construction, Modification or Reconstruction commenced after December 30, 1983 that produces any chemical or compounds listed in this NSPS as a product, co-product, by-product or intermediate product.

The ULTEM® operation is not subject to this NSPS because this operation does not involve any chemical or compounds production listed in this NSPS as a product, co-product, by-product or intermediate product.

- (5) 40 CFR § 60.700, Subpart RRR - Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.

This NSPS applies to each reactor process for which Construction, Modification or Reconstruction commenced after June 29, 1990 that produces any chemical or compounds listed in this NSPS as a product, co-product, by-product or intermediate product.

The ULTEM® operation is not subject to this NSPS, because this operation does not involve any chemical nor compounds production listed in this NSPS as a product, co-product, by-product or intermediate product.

- (6) 40 CFR § 60.560, Subpart DDD - Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.

This NSPS applies to sources that manufacture polypropylene, polyethylene, polystyrene, or poly (ethylene terephthalate).

The ULTEM® operation is not subject to this NSPS, because this operation does not involve the manufacture of any of the polymers mentioned.

(b) National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

- (1) 40 CFR § 63.1310, Subpart JJJ - National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resin. This NSPS applies to different polymers or polymer groups listed in § 63.1312(b) of this NSPS. The ULTEM® polymerization process is not subject to this NSPS because it does not involve the manufacture of these polymers.

State Rule Applicability

- (1) 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)
This rule mandates a Particulate Matter emissions limit using the following equation for the existing 31.9 mmBtu/hr Hot Oil Heater, and the new 31.9 mmBtu/hr Hot Oil Heater:

- (a) The existing 31.9 mmBtu/hr Hot Oil Heater has been limited, in a previous permit (CP129-5608), under 326 IAC 6-2 using the wrong Section in this rule. The correct rule applicability is 326 IAC 6-2-4, since it was constructed after September 21, 1983. The correct PM allowable emissions will be determined based on the following equation:

$$\begin{aligned} \text{Pt} &= \frac{1.09}{Q^{0.26}} \\ &= \frac{1.09}{(1529.5)^{0.26}} \\ &= 0.16 \text{ lb/mmBtu} \end{aligned}$$

$$0.16 \text{ lb/mmBtu} * 31.9 \text{ mmBtu/hr} * \text{ton}/2000 \text{ lb} * 8760 \text{ hr/yr} = 22.4 \text{ ton/yr}$$

Where: Pt = pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input
Q = Total source maximum operating capacity rating in mmBtu/hr heat input

The existing hot oil heater is in compliance with this rule since its potential PM emissions of 1.02 ton/yr, which is equivalent to 0.0075 lb/mmBtu, are less than the PM allowable.

- (b) New 31.9 mmBtu/hr hot oil heater:

$$\begin{aligned} \text{Pt} &= \frac{1.09}{Q^{0.26}} \\ &= \frac{1.09}{(2337.2)^{0.26}} \\ &= 0.15 \text{ lb/mmBtu} \end{aligned}$$

$$0.15 \text{ lb/mmBtu} * 31.9 \text{ mmBtu/hr} * \text{ton}/2000 \text{ lb} * 8760 \text{ hr/yr} = 21.0 \text{ ton/yr}$$

The new hot oil heater is in compliance with this rule since its potential PM emissions of 1.02 ton/yr, which is equivalent to 0.0075 lb/mmBtu, are less than the PM allowable.

- (2) 326 IAC 6-3-2 (Process Operations):
This rule mandates a PM allowable emissions from the following facilities using below equation:

- (a) For process weight rate less than 100 pounds per hour:

PM emissions are not regulated.

- (b) For process weight rate between 100 and 60,000 pounds per hour:

$$E = 4.10 P^{0.67}$$

- (c) For process weight rate in excess of 60,000 pounds per hour:

$$E = 55.0 P^{0.11} - 40$$

Where:

E = PM allowable emissions in pounds per hour (lb/hr).

P = Process weight rate in tons per hour (ton/hr).

Stack Vent ID	Emission limit from 326 IAC 6-3-2 (lb/hr)
SV13-035	2.91
SV13-050	12.0
SV13-051	4.25
SV13-064	4.10
SV13-070	10.0
SV13-071	10.0
SV13-165	4.76
SV13-166	4.76
SV13-167	7.58
SV13-168	4.76
SV13-170	35.4
SV13-251	1.51
SV13-252	1.51
SV13-254	2.91
SV13-255	0.72
SV13-256	4.63
SV13-265	7.06
SV13-266	7.06

SV13-267	7.06
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SV13-282	6.74
SV13-287	2.91
SV13-288	2.91
SV13-289	4.63
SV13-296	12.0
SV13-297	12.0
SV13-298	12.0
SV13-299	65.4
SV13-300	65.4
SV13-301	65.4
SV13-302	65.4
SV13-303	7.58
SV13-304	7.58
SV13-305	7.58
SV13-306	7.58
SV13-307	7.58
SV13-308	7.58
SV13-309	65.4
SV13-310	7.58
SV13-311	7.58
SV13-312	7.58
SV13-314	7.58
SV13-328	65.4
SV13-333	7.58
SV13-336	65.4
SV13-337	65.4
SV13-338	40.0

SV13-339	2.75
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- (3) 326 IAC 2-6 (Emission Reporting)
This facility is subject to 326 IAC 2-6 (Emission Reporting) because the source emits more than 100 tons/yr of VOC. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement for the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.
- (4) 326 IAC 8 (Volatile Organic Sources)
There are no rules in 326 IAC 8 that will apply to the facilities in the ULTEM® operation because it is not one of the described processes in the rule.
- (5) 326 IAC 8-1-6 (General Reduction Requirements)
The Displacement Vent Condenser identified as C-1001, Exchange Vent Condenser identified as C1021, Lift Station identified as S-801, and the Wastewater Stripper identified as T-105 in the ULTEM® operation are subject to 326 IAC 8-1-6 (General Reduction Requirements) since their total VOC emissions of 92.4 tons/year, venting to one stack are above 25 tons per year, and are not subject by any other rules in 326 IAC 8.
- The source is installing a Vent Oxidizer to control the VOC emissions from these facilities. Therefore, the Best Available Control Technology (BACT) requirement is satisfied.
- (6) 326 IAC 7-2 (Sulfur Dioxide Compliance)
The two 31.9 mmBtu/hr hot oil heaters are not subject to this rule because their potential to emit sulfur dioxide is less than 25 tons/yr or 10 lb/hr.
- (7) 326 IAC 2-2 (Major NSR Requirements, Prevention of Significant Deterioration)
Vent Oxidizer H-2100 is proposed to control the VOC emissions from part of the ULTEM® operation expansion. This oxidizer will reduce the VOC emissions by approximately 87.8 tons per year, based on the future potential emissions. However, because one of the VOCs in the controlled air stream is triethylamine, which contains a nitrogen atom, its destruction will produce NOx. In addition, the combustion of natural gas in the oxidizer will also produce NOx. The operation of the oxidizer will produce up to approximately 26.93 tons of NOx per year. The NOx emissions from the operation of the oxidizer will be included in the NOx emissions that are subject to the synthetic minor permit limit that makes 40 CFR 52.21 and 326 IAC 2-2 not applicable.
- (8) Malfunction Condition
326 IAC 2-7-16 (Emergency provisions) is applicable to Title V sources. It is IDEM's interpretation that until a Title V permit is issued to the source, the Malfunction Requirements under 326 IAC 1-6-2 are applicable and that the Emergency Provisions under 326 IAC 2-7-16 will apply and supersede the Malfunction Requirements once the Title V permit is issued to the source.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This modification will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows: The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

A Vent Oxidizer will be installed to control the VOC emissions from part of the ULTEM[®] operation and this unit will also destroy the HAPs emissions in this stream.

- (b) 326 IAC 2-1-3.4 (New Source Toxics Control)
This rule is not applicable to this project (ULTEM[®] operation expansion) because, even though there are several new pieces of equipment being constructed, these equipment cannot operate independently from the existing line operation.

Conclusion

The construction of this will be subject to the conditions of the attached proposed **Construction Permit No. CP-129-10588-00002**.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: General Electric Company
 Source Location: One Lexan Lane, Mt. Vernon, Indiana 47620
 County: Posey
 Construction Permit No.: CP-129-10588-00002
 SIC Code: 2821
 Permit Reviewer: Aida De Guzman

On April 28, 1999 the Office of Air Management (OAM) had a notice published in the Mount Vernon Democrat, Mount Vernon, Indiana, stating that General Electric Company had applied for a construction permit to construct and operate an expansion to the ULTEM[®] operation with a new oxidizer to control the VOC emissions. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On May 24, 1999, General Electric Company submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows (changes are bolded and deletion are struck-through for emphasis):

Comment 1: Page 4 of 27 Section A.3 of the proposed permit. General Electric Company believes that this condition is unnecessary and should be deleted. Whether the source is a "major source" under 326 IAC 2-7 is not relevant to a permit being issued under 326 IAC 2-1.

Should IDEM not delete this condition, then General Electric Company requests that the following sentence be added at the end of the condition for the sake of completeness and clarity:

"The Part 70 permit application was determined to be administratively complete on October 29, 1996".

Response 1: Section A.3. will not be deleted. However, the following sentence is added at the end of this section:

"The Part 70 permit application was determined to be administratively complete on October 29, 1996".

Comment 2: Page 8 of 27, Condition C.1 of the proposed permit. General Electric Company believes that the meaning of the second half of the second sentence is unclear. The intent of the entire sentence is two-fold. In the first half of the sentence, to state that increases in emissions of NO_x and VOC are not significant (because the increases, after control, are each less than 40 tons per year); and, in the second half, to state that increases in emissions of other pollutants emitted under the expansion (and not being controlled) are not significant. For the sake of clarity, General Electric requests that the second half of the sentence be revised to read as follows:

, and **the increase in emissions of each other** pollutant being emitted under this expansion **are is less than the its respective PSD significance level**
~~significant levels.~~

Response 2: Condition C.1 of proposed permit is revised to read as follows:

C.1 PSD Existing Major Source Status [326 IAC 2-2] [40 CFR 52.21]

The source is an existing major source under 326 IAC 2-2, Prevention of Significant Deterioration (PSD) and 40 CFR 52.21. The increases in emissions of nitrogen oxides (NO_x) and of volatile organic compounds (VOC) from the ULTEM[®] 2x expansion after control are each less than 40 tons per year, and **and the increase in emissions of each other pollutant being emitted under this expansion are is less than the its respective PSD significant level** ~~each pollutant being emitted under this expansion are less than the~~. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

Comment 3: Page 8 of 27, condition C.2.(a) of the proposed permit. The opacity limit shown is 30%. Per 326 IAC 5-1-2(2), this limit only applies in the areas designated in 326 IAC 5-1-1(c). GEP's plant is located in Posey County, which is not listed in 326 IAC 5-1-1(c). Therefore, 326 IAC 5-1-2(1) applies.

Response 3: The 30% opacity limit in Condition C.2(a) is a typographical error, and it was changed to 40%.

Comment 4: Page 10 of 27, condition C.12(a) of the proposed permit. Please correct the typographical error by inserting the word "years" after "two (2) in the third sentence.

Response 4: The word "years" was inserted after "two (2) in the third sentence of condition C.12(a).

Comment 5: Page 12 of 27, condition D.1.1(a) of the proposed permit. In order to serve the interests of IDEM, GEP, and the public, the condition must state clearly and concisely what limit is being created and what its purpose is. GEP believes that the condition, as drafted, does not do so, for the following reasons: First, it attempts to list each criterion that must be monitored, but leaves out two scrubber flow rate and hours of bypass operation of the Vent Oxidizer. Second, it refers to "summation of equations", which is misleading. It is the emissions calculated using the equations that are summed, not the equations themselves. Third, it refers to an "average VOC daily emission rate, which is incorrect. The rate is not designed to be an average, but a rolling total. Fourth, it refers to a VOC "daily" emission rate which is incorrect. A synthetic minor limitation is not a daily rate; it is an annualized rate (in this case, over a 365-day period. Fifth, it states that a cumulative limit will exist during the first 365 days after the effective date of the permit, but the language used does not clearly explain how this limit operates. The cumulative limit is not calculated by dividing the yearly limit of 195.93 tons by the accumulated days of operation. This would result in the limit on the first day equaling 195.93 tons., which is not IDEM's, (or GEP's) intent. Sixth it refers to the cumulative limit as being equal to 0.5368 tons rolled on a daily basis. This is incorrect. There is no rolling total during the first 365 days because there aren't 365 days' worth of data with which to calculate a rolling total; that's which GEP proposed that a cumulative limit be used. GEP believes that the current language create opportunities for misinterpretation and misunderstanding.

GEP believes the following language, which is not intended to change the substance of the limit, is clearer and more straightforward. Furthermore, IDEM has previously used the format of GEP's proposed language in the second paragraph, in another permit issued to GEP (Amendment A129-9379-00002 to CP129-5500-00002), issued on

February 12, 1998. This, GEP requests that condition D.1.1(a) be completely revised to read as follows:

- (a) The pounds of ULTEM produced per day; water outlet temperatures; natural gas usages; pounds of waste feed usage per day; pounds of steam usage, scrubbant flow rate; number of vacuum systems associated with C-1021; and hours of bypass operation of the Vent Oxidizer shall be limited such that the summation of the emissions calculated using the equations contained in Condition D.1.16(a)(1) through (8) shall not exceed a VOC emissions limit of 195.93 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the combined VOC emissions of these emission units shall be subject to a cumulative limit such that (i) the limit on the first day shall be 0.5368 tons, (ii) the limit shall increase each day by 0.5368 tons, and (iii) the VOC emissions limit shall be 195.93 tons on the 365th day.

Response 5: Condition D.1.1 is revised to include the scrubbant flow rate and the hours of bypass operation of the Vent Oxidizer as additional parameters to be considered, and monitored in limiting the Ultem's VOC potential to emit.

The blanket emission limit used as a permit condition to restrict the PTE is not federally enforceable, when it cannot be enforced in a practical matter because it is hard to quantify. However, short term emission limits (e.g. pound per hour) would be sufficient to limit the PTE, provided that such limits reflects the operation of the control equipment, and the permit includes the requirements to install, maintain, and operate a Continuous Emissions Monitor (CEM) system, and to retain CEM data, that will be used to determine compliance with the emission limit.

The operational limitation, which includes a limit on the raw material usages, temperature, and other parameters used in limiting the PTE are easier to enforce in a practical manner, because these parameters are easy to quantify, monitored, and verified.

Based on this reason, Condition D.1.1 first two (2) lines stay the same, and the rest is revised as follows:

D.1.1 VOC Emissions Limit

- (a) The pounds of ULTEM produced per day; water outlet temperatures; natural gas usages; pounds of waste feed usage per day; pounds of steam usage, scrubbant flow rate; number of vacuum systems associated with C-1021; and hours of bypass operation of the Vent Oxidizer shall be limited such that the summation of **the emissions calculated using the** equations contained in Condition D.1.16(a)(1) through (8) ~~will result in an average~~ shall not exceed a VOC ~~daily~~ **emissions rate for each 365-day period that is limit of** 195.93 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the ~~calculated combined~~ **combined** VOC emissions **of these emission units** shall be subject to a cumulative limit such that **(i) the VOC yearly limit on the first day** shall be 0.5368 tons, **(ii) the limit shall increase each day by 0.5368 tons, and (iii) the VOC emissions limit shall be 195.93 tons on the 365th day.**

(b) The pounds of ULTEM produced per day; water outlet temperatures; hours of bypass operation of the Vent Oxidizer; number of vacuum systems associated with C-1021; and natural gas usages, shall be limited such that the summation of **the emissions calculated using the equations contained in Condition D.1.16 (b)(1) through (5) will result in an average shall not exceed a VOC daily emissions rate limit for each 365-day period that is of 39.49 tons per 365-day period, rolled on daily basis.**

(c) Compliance with this Condition (a) and (b) will make 326 IAC 2-2, the Prevention of Significant Deterioration (PSD), and 40 CFR 52.21 not applicable. This Condition will also satisfy the requirements under 326 IAC 8-1-6 (General Reduction).

Comment 6: Page 12 of 27, condition D.1.1(b) of the proposed permit. This condition suffers from many of the same defects as proposed condition D.1.(a).

Response 6: See Response 5, which addresses this comment.

Comment 7: Page 12 of 27, condition D.1.1 of the proposed permit. The format of the last paragraph needs to be revised to clarify that it is not a part of paragraph (b) of this condition.

Response 7: See Response 5, which addresses this comment.

Comment 8: Page 13 of 27 of the proposed permit. An emission unit was left out of the table and should be added. This unit is SV13-255, with an emission limit from 326 IAC 6-3 of 0.72 pounds per hour.

Response 8: The process weight rate and PM emission limit of unit SV13-255 have been verified and this unit was added in the table.

Comment 9: Page 13 of 27, condition D.1.4 of the proposed permit. The first two paragraphs suffer from many of the same defects described above for condition D.1.1(a).

Response 9: See Response 5, which addresses, the same comment. Condition D.1.4 is revised as follows:

D.1.4 Nitrogen Oxide (NOx) Emissions Limit

The cubic feet of natural gas usage per day; pounds of waste feed usage per day; **concentration of NOx (ppmv) emitted from SC-1/2, SV 13-155; gas flow rate (acf) from SC-1/2, SV 13-155; number of vacuum systems associated with C-1021; the pounds of steam usage per day; and hours of bypass operation of the Vent Oxidizer H-2100** shall be limited such that the **summation of the emissions calculated using the equations contained in Condition D.1.14 (a)(1) through (4), and the collateral emissions from the Vent Oxidizer H-2100, mentioned in condition D.1.5(b)** shall not exceed a NOx emissions limit of 133.77 tons per 365-day period, rolled on daily basis.

During the first 365 days after the effective date of this permit, the combined NOx emissions of these emission units shall be subject to a cumulative limit, such that (i) the limit on the first day shall be 0.36649 tons, (ii) the limit shall increase each day by 0.36649 tons and (iii) the NOx emissions limit shall be 133.77 tons on the 365th day.

Compliance with this Condition will make 326 IAC 2-2, Prevention of Significant Deterioration (PSD), and 40 CFR 52.21 not applicable.

Comment 10. Page 14 of 27, condition D.1.5(b) of the proposed permit. This condition is intended to embody EPA's July 1, 1994 environmental beneficial pollution control project policy. Under this policy, collateral emissions produced from the operation of a pollution control device are not to be considered in the PSD review of the project. However, IDEM has ignored one of the policy's aspects. If the collateral emissions are by themselves, significant (i.e. greater than 40 ton/yr of NOx), the policy states that Permittee must provide sufficient data to satisfy IDEM that the levels of NOx will not cause a NAAQS or increment violation. However, the proposed permit states that, if the collateral emissions are significant, they will be subject to major NSR requirements and the NOx emissions limit will be adjusted accordingly.

GEP requests that IDEM follow the U.S. EPA policy and revise the last sentence of condition D.1.5(b) to read as follows (addition are bolded and deletion are struck-through):

If the tests indicates that the collateral NOx emissions are at a significant level, then **the Permittee shall provide sufficient data to satisfy IDEM that the levels of NOx will not cause a NAAQS or increment violation** ~~these collateral emissions shall be subject to major NSR requirements, and Nox emissions limit will be adjusted accordingly.~~

If IDEM will not make this change, then GEP believes that the sentence is confusing and needs to be clarified. GEP suggests rewording the last sentence of condition D.1.5(b) to read as follows (addition are bolded and deletion are struck-through):

If the tests indicates that the collateral NOx emissions are at a significant level, then these collateral emissions shall be subject to major NSR requirements, **and, for each day, or portion thereof, that the Vent Oxidizer H-2100 operates, 1/365th of the annualized emissions rate measured during the tests shall be added to the daily** NOx emissions ~~will be adjusted accordingly.~~

Response 10: Both state and federal law place constraints on the use of policy when interpreting and implementing rules. In the case of the U.S. EPA's July 1, 1994 memo regarding pollution control projects, Indiana law would place additional restrictions on the use of this policy. However, even at its face the federal policy would not apply to this project. Page two of the memo states: "... this guidance only applies to physical or operation changes whose primary function is the reduction of air pollutants....at existing major sources. This policy does not apply to air pollution controls and emissions associated with a proposed new source."

Since GE's pollution control reduction by the thermal oxidizer is not the primary function of their source modification, it is therefore not qualified for exemption under "Pollution Control Projects and New Source Review (NSR). Emissions from this control equipment is therefore, **included in the NOx emissions that are subject to the synthetic minor permit limit that makes 40 CFR 52.21 and 326 IAC 2-2 not applicable.**

Comments 11 & 12: Page 14 of 27, condition D.1.9(a) and (b) of the proposed permit. Correct the typographical error in the right-hand column of condition (a) and (b) by changing "VOC emission cap" to VOC emission caps". This change reflects that this emissions unit is subject to two emission caps, one from condition D.1.1(a) and the other from condition D.1.1(b).

Response 11 & 12 : The typographical error in condition D.1.9(a) and (b) has been corrected.

Comment 13: Page 15 of 27, condition D.1.12 of the proposed permit. Correct the typographical error in the first line by changing "Condition D.1.4 to Condition D.1.3.

Response 13: The typographical error in condition D.1.12 has been corrected.

Comment 14: Page 16 of 27, condition D.1.14(a). Correct the typographical error in the opening paragraph of condition (a) by inserting "as" before "follows".

Response 14: The typographical error in condition D.1.14(a) has been corrected.

Comment 15: Page 17 of 27, condition D.1.14 (b) of the proposed permit. Correct the typographical error in the second sentence by changing "Condition D.1.15(a)" to "Condition D.1.14(a).

Response 15: The typographical error in condition D.1.14(b) has been corrected.

Comment 16: Page 17 of 27, condition D.1.15(b) of the proposed permit. Correct the typographical error by inserting "of" before "§ 60.48c".

Response 16: The typographical error in condition D.1.15(b) has been corrected.

Comment 17: Page 17 of 27, condition D.1.15(c) of the proposed permit. Correct the typographical error by inserting "of" before "§ 60.48c".

Response 17: The typographical error in condition D.1.15(c) has been corrected.

Comment 18: Page 18 of 27, condition D.1.16(a)(8) of the proposed permit. One of the parameters used in calculating the emissions from the emission units set forth in condition D.1.16(a)(8) was inadvertently left out. This parameter is the number of vacuum systems associated with C-1021.

Response 18: Condition D.1.16(a)(8) is revised as follows:

(8) The combined daily VOC emissions from the following emissions units (C-1001/C-1021/S-801/T-105, SV13-346; and H-2100AOS, SV13-347) are based on the following equation: Emissions = $\left[\left(\left(\text{lb. ULTEM produced/day} \right) \times \text{SV13-346 emissions factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)} \right) + \left(\text{constant (lb VOC/day)} \times \left(\text{number of vacuum systems associated with C-1021} \right) - \text{constant (lb VOC/day)} \right) \times \left(\text{hours/day flow vented to SV13-346} \right) \times \left(1 \text{ day/24 hours} \right) \right] + \left[\left(\left(\text{lb. ULTEM produced/day} \right) \times \text{SV13-347 emissions factor (lb. VOC/lb. ULTEM produced)} + \text{constant (lb. VOC/day)} \right) + \left(\text{constant (lb VOC/day)} \times \left(\text{number of vacuum systems associated with C-1021} \right) - \text{constant (lb VOC/day)} \right) \times \left(\text{hours/day flow vented to SV13-347} \right) \times \left(1 \text{ day/24 hours} \right) \right] + \left[\text{for SV13-346 only} \right] \left(\text{scf natural gas used/day} \right) \times \text{emission factor (lb. VOC/scf natural gas)}$. See Attachment A, Spreadsheets for detail calculations. The emission factor for SV13-346 is assumed to be 0.05 times the emission factor for SV13-347, reflecting **an overall control efficiency of 95% destruction of VOCs**. Performance testing conducted as required by this permit will establish the actual destruction efficiency.

Comment 19: Page 10 of 29. Condition D.1.16(b)(5) of the proposed permit. For the same reason that condition D.1.16(a)(8) needs to be revised, D.1.16(b)(5) also needs to be revised.

Response 19: Condition D.1.16(b)(5) is revised as follows:

- (5) The combined daily VOC emissions from the following emissions units (C-1001/C-1021/S-801/T-105, SV13-346; and H-2100AOS, SV13-347) that are attributable to former SV13-040 and former SV13-041 (being ducted to the vent oxidizer, SV13-346, as part of this project) are based on the following equation: Emissions = $[[[(\text{lb. ULTEM produced/day}) \times \text{SV13-346 alternate emissions factor} (\text{lb. VOC/lb. ULTEM produced}) + \text{constant} (\text{lb. VOC/day})] + (\text{constant} (\text{lb VOC/day}) \times (\text{number of vacuum systems associated with C-1021})) - \text{constant} (\text{lb VOC/day})] \times (\text{hours/day flow vented to SV13-346}) \times (1 \text{ day}/24 \text{ hours})] + [[[(\text{lb. ULTEM produced/day}) \times \text{SV13-347 alternate emissions factor} (\text{lb. VOC/lb. ULTEM produced}) + \text{constant} (\text{lb. VOC/day})] + (\text{constant} (\text{lb VOC/day}) \times (\text{number of vacuum systems associated with C-1021})) - \text{constant} (\text{lb VOC/day})] \times (\text{hours/day flow vented to SV13-347}) \times (1 \text{ day}/24 \text{ hours})]$. See Attachment B, Spreadsheets for detail calculations. The emission factor for SV13-346 is assumed to be 0.05 times the emission factor for SV13-347, reflecting **an overall control efficiency of 95% destruction of VOCs**. Performance testing conducted as required by this permit will establish the actual destruction efficiency.

Comment 20: Page 19 of 27, condition D.1.17(a) of the proposed permit. This condition appears to apply to stack exhausts, with allowable emissions of 10 pounds per hour or greater, when the condition should apply to emissions units with allowable emissions of 10 pounds per hour or greater. After all, the emissions limits applies to the emissions unit, not to the stack. Thus, GEP requests that the first sentence of this condition be revised to read as follows:

- (a) Weekly visible emission notations of each of the ULTEM® operation dust collector stack exhausts **that vent an emission unit**, with ~~an~~ allowable emissions of 10 pounds per hour or greater shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. Inspections are optional when venting to the indoors.

Response 20: Condition D.1.17(a) is revised to reflect your comments.

Comment 21: Page 20 of 27, condition D.1.18 of the proposed permit. Correct the typographical error in the first sentence by deleting “an” before “allowable emissions”.

Response 21: The word “an” is deleted before “allowable emissions”.

Comment 22: Page 20 of 27, condition D.1.19, of the proposed permit. Correct the formatting by combining the text into a single paragraph.

Response 22: D.1.19 is revised by combining the text into a single paragraph.

Comment 23: Page 22 of 27, condition D.1.22(a) of the proposed permit. Correct the inadvertent exclusion of the parameter described above in comment 18 and 19 (number of vacuum systems associated with C-1021) by adding the parameter as new subcondition (9) in condition D.1.22(a) and revising the previous two subconditions as follows:

- (7) Amount of liquid waste feed to the thermal oxidizer H-1100 for each calendar day; ~~and~~

(8) Steam usage at the ULTEM plant for each calendar day; **and**

(9) **The number of vacuum systems associated with C-1021.**

Response 23: Condition D.1.22(a)(7) and (8) are revised to reflect your comments.

Comment 24: Page 23 of 27, Quarterly Summary for 195.93 ton/year VOC limit. The paragraph immediately following the "Limit" needs to be revised consistent with Comment 5.

Response 24: Page 23 of 27, Quarterly Summary for 195.93 ton/year VOC limit is revised consistent with Comment 5 and the changes made to condition D.1.1.

Comment 25: Page 25 of 27, Quarterly Summary for 133.77 tons/year NOx Limit. The paragraph immediately following "Limit" needs to be revised consistent with Comment 9.

Response 25: Page 25 of 27, Quarterly Summary for 133.77 tons/year NOx Limit is revised consistent with Comment 9 and the changes made to condition D.1.4.

Technical Support Document

Comment 1: On page 1, in the paragraph listing the air approvals that will be superseded, insert "to" between "Correction Request" and 129-5608 in the third line. This makes this paragraph consistent with the parallel paragraph in the permit.

Response 2: The paragraph on page 1 of the TSD listing all air approvals is revised to insert "to" between "Correction Request" and 129-5608 in the third line as follows:

The issuance of this permit will supersede the following air approvals to the ULTEM® operation: Amendment to CP (65) 1562, issued March 11, 1985; Amendment to PC (65) 1656, issued May 11, 1988; Correction Request **to** 129-5608, dated October 29, 1996; PC (65) 1562, issued August 27, 1984; PC (65) 1585, issued July 30, 1985; PC (65) 1656, issued September 18, 1987; PC (65) 1710, issued September 22, 1988; CP129-5608, issued August 5, 1996; Registrations issued on April 11, 1984; February 28, 1990; May 18, 1990; July 12, 1990, and 129-2226, issued on October 28, 1991.

Comment 2: On page 2, after the "Recommendation" section, GEP requests that language be inserted regarding Malfunction.

Response 2: Malfunction Requirements was already addressed in the original TSD, page 22 of 22, under the **State Rule Applicability** item (8).

Comment 3: On page 5 of 22 of the TSD, the units on the VOC emissions of Post-Project Steam Usage were left out. They are tons/yr, just as in the PM10 and SO2 calculations immediately below.

Response 3: It is noted in this TSD Addendum that the units on the VOC emissions of Post-Project Steam Usage are in tons per year.

Comment 4: On page 7 of 22 of the TSD, the table under the heading **Total Potential and Allowable Emissions**, the figures under the column "Potential Emissions are incorrect. They should match the values in the table immediately above, e.g. PM should be 29.46 ton/yr instead of 29.27 ton/yr, PM10 should be 26.61 instead of 26.42 etc.

Response 4: The table under the heading **Total Potential and Allowable Emissions** is revised as follows:

Pollutant	Allowable Emissions (PM emissions rate are based on 326 IAC 6-3) (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	3,457.6	29.27 46
Particulate Matter (PM10)	3,457.6	26.42 61
Sulfur Dioxide (SO ₂)	0.73	0.73
Volatile Organic Compounds (VOC)	568.61	568.61
Carbon Monoxide (CO)	125.0	125.0
Nitrogen Oxides (NO _x)	133.8	133.8
Single Hazardous Air Pollutant (HAP)	460.7	460.7
Combination of HAPs	460.7	460.7

The potential emissions from the rest of the pollutants in this table stay the same. The potential emissions are the total potential emissions of all the emissions units, without considering any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment.

The values in the table immediately above under Future Potential Emissions column are the **controlled** emissions from the existing source and the emissions from the modification, based on 8760 hours per year. This definition should replace the Future Potential Emissions definition on page 6 of 22 of the TSD, which did not account for the control equipment.

Comment 5: On pages 14 and 15 in the table of tanks subject to Subpart Kb, some of the descriptive language in the earlier draft has been left out. This results in some confusion because five tanks vent to SV13-346 and two tanks vent to SV13-042. GEP suggests that some descriptive language be added to the entries in the "Tank ID" column for these tanks in order to be able to distinguish among them. Specifically, GEP suggests that IDEM add the following:

- "ODCB Tank" to the third listing
- "V-250" to the sixth listing
- "V-240" to the seventh listing
- "V-500A" to the ninth listing
- "V-500B" to the tenth listing
- "V-130" to the twelfth listing

Response 5: The table on page 14 and 15 are revised as follows:

Tank ID	Construction, Reconstruction, or Modification Date	Nominal Tank Capacity (cubic meters)	Maximum True Vapor Pressure (kPa)
Tank SV13-323	Proposed	93.1	0.009
Tank V13-044	1985	57	N/A
ODCB Tank SV13-046	1985	76.3	0.5
Tank SV13-047	1985	89.0	7.9
Tank V13-058	1985	90.6	0.009
V-250 Tank SV13-346	1985	44.8	N/A
V-240 Tank SV13-346	1985	48.8	N/A
Tank SV13-040	1985	40.1	N/A
V-500A Tank SV13-042	1985	57.5	N/A
V-500B Tank SV13-042	1985	57.5	N/A
Tank SV13-057	1985	57.2	N/A
V-130 Tank SV13-346	1985	61.7	N/A
Toluene/water decanter SV13-346	1985	57.8	N/A

Comment 6: On page 15, change § 60.48 to § 60.48c in the paragraph immediately above (a) and in paragraph (a)

Response 6: On page 15 item (2)(a), § 60.48 is changed to § 60.48c, and in the paragraph immediately above item (2)(a).

Comment 7: On page 16, change § 60.48 to § 60.48c in both paragraphs (b) and (c) at the top of the page.

Response 7: On page 16, § 60.48 is changed to § 60.48c in both paragraphs (b) and (c) at the top of the page.

Upon further review, OAM has made the following changes (changes are bolded and deletion are struck-through for emphasis):

1. *The 95% destruction efficiency in conditions D.1.5, D.1.16(a)(8) and D.1.16(b)(5) is changed to 95% overall control efficiency.*
2. *Condition D.1.5 Performance Testing is revised to require testing on the condensers C751, C971, C801 and the vent scrubber. The revision is as follows:*

D.1.5 Performance Testing

- (a) Stack tests shall be performed on the Vent Oxidizer H-2100 to determine the minimum operating temperature that will achieve a 95% overall VOC control efficiency and to verify the emission factors and constants used in the spreadsheet calculations, utilizing methods approved by the Commissioner. **Stack tests shall be performed on Condensers C751, C971, C801, and the Vent Scrubber PI/MMA HD to verify the emission factors and constants** used in the spreadsheet calculations, utilizing methods approved by the Commissioner. The tests shall be made within 60 days after achieving maximum production rate, but no later than 180 days after receipt of the Validation Letter from the IDEM.

The test frequency shall be established in the Part 70 permit. In addition to these requirements, IDEM may require monitoring of emissions when necessary to demonstrate compliance with any applicable air pollution control rule.

NOx CAP (including collateral emissions from Vent Oxidizer (H-2100))

NOx CAP (including collateral emissions from Vent Oxidizer (H-2100))

DAILY INPUT DATA

UNITS

ULTEM Plant Steam Usage: lbs

Natural Gas Fired In: H-900 scf

Natural Gas Fired In: H-900B scf

Natural Gas Fired In: H-1100 scf

Natural Gas Fired In: H-2100 scf

Liquid Waste Feed To: H-1100 lbs

No. of associated vacuum systems (2-5): C1021 units

Stack Nitrogen Oxides SC-1/2 ppmv

Stack Gas Flow SC-1/2 acf

By-Pass Duration Of: H-2100 hrs.

Group 1

S/V ID	Emission Unit	Description	Process Data (PD1)	Units	Emission Factor (EF1)	Units	NOx						
			Value		Value (1)		lb/day						
NOX (lbs/day) = PD1 * EF1													
13-049	H-900	Hot Oil Burner	0	scf Natural Gas used/Day	1.00E-04	lbs. NOx/scf Natural Gas	0.00						
13-321	H-900B	Hot Oil Burner	0	scf Natural Gas used/Day	1.00E-04	lbs. NOx/scf Natural Gas	0.00						
13-STEAM	STEAM	Utem Operation Steam Usage	0	lbs. Steam/Day	8.47E-05	lbs. NOx/lb Steam	0.00						
Group 1 TOTAL							0.00						
(1) According to the approved process data													
S/V ID	Emission Unit	Description	Process Data (PD1)	Units	Emission Factor (EF1)	Process Data (PD2)	Emission Factor (EF2)	NOx					
			Value		Value	Units	Value	lb/day					
NOx (lbs/day) = (PD1 * EF1) + (PD2 * EF2)													
13-098	H-1100	Thermal Oxidizer	0	scf Natural Gas used/Day	1.00E-04	lbs. NOx/scf Natural Gas	0	lbs. Waste Feed/Day	4.03E-04	lbs. NOx/lb. Waste Feed	0.00		
Group 2 TOTAL								0.00					
S/V ID	Emission Unit	Description	Process Data (PD1)	Units	Process Data (PD2)	Emission Factor (EF1)	NOx						
			Value		Value	Units	lb/day						
NOx (lbs/day) = PD1 * PD2 * EF1													
13-155	SC-1/2	NOx Containment System	0	ppmv NOx/Day	0	acf	1.20E-07	lb NOx/(ppmv * acf)	0.00				
Group 3 TOTAL							0.00						
S/V ID	Emission Unit	Description	Process Data (PD1)	Units	Emission Factor (EF1)	Constant (C1)	Process Data (PD2)	Constant (C2)	Emission Factor (EF2)	Process Data (PD3)	NOx		
			Value		Value	Units	Value	Units	Value	Units	lb/day		
NOx (lbs/day) = (PD1 * EF1) + ((C1 * PD2 - C2) * EF2) * (PD3/24)													
13-345	H-2100	Vent Oxidizer	0	scf Natural Gas used/Day	1.00E-04	lbs. NOx/scf Natural Gas	110.8	0	Vacuum Systems	197.70	0.455	hours on-line	0.00
Group 4 TOTAL											0.00		

N = number of vacuum systems associated with C1021 ☐

H = number of hours H2100 in operation ☐